

Application SN: 10/812,649
Amendment Dated: January 11, 2005
Reply to Office Action of: August 11, 2004

CLAIM REJECTIONS

Turning now to the claim rejections, Claims 1 to 12 have been rejected as being unpatentable over Shields, U.S. Patent No. 5,773,110 in view of Andriash, U.S. Patent No. 5,679,435 and Mimura, et, al., U.S. Patent No. 5,002,825. Claims 1, 4 and 11 are the independent method claims presently under consideration.

APPLICANT'S INVENTION

The Applicant's invention relates to a method of producing one-way vision or see-through panels of the type in which a graphic image is applied to a flexible substrate. The substrate is perforated and adhered to a transparent surface providing the one-way vision characteristics. Applicant's claims are specific to the use of ink jet technology for creating a superior image on see-through vision panels. In order to obtain the necessary high quality image, the flexible film, such as a polyester film, is top-coated in order to encapsulate and absorb the ink and provide the degree of resolution necessary. Dyes and inks used in ink jet applications are hydrophilic and will laterally migrate when applied to the film. The Applicant suggest various substances which may be used to encapsulate the dyes and pigments and prevent bleeding. Synthetic films used in one-way panels, such as polyesters and vinyls, which are not top-coated, will not accept certain types of ink, particularly dyes and pigmented inks. The top coating, as suggested by the Applicant, may be clays, resins, gels or latex combination coatings. A significant advantage of the panel produced by the method is that it can be pre-printed with an image by ink jet and

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provided to the user ready of application by simply removing the backing and adhering it to a window.

The present application was divided from the Applicant's issued patent which is directed to a one-way, see-through panel. The present application is directed to a method of producing a panel which, essentially, consists of providing an opaque substrate having
5 opposite surfaces, applying a dark pigmented adhesive to the first surface of the substrate or alternately applying an adhesive to the second surface which is dark colored, top-coating a second surface with an ink jet encapsulating substance, perforating the top-coated substrate and release liner, applying an imperforate barrier over the release liner
10 and applying an image to the second surface by the use of an ink jet applicator. The inclusion of the imperforate barrier of Claims 1 and 4 is important because it provides protection during the application of the image against bleed through of inks to the opposite surface. If the barrier liner is not applied, there is a possibility of the applied ink jet images passing through the holes to the opposite side of the substrate.

15 Shields is cited as teaching a method for producing a one-way, see-through panel which includes providing an opaque white colored substrate. The Shields '110 patent relates to a method of making a display in which a perforated panel is provided with layers of paint intended for use by sign painters. The perforated panels are applied to the window with tape or similar adhesive. The outer surface is painted with an image. Once
20 the painted layer has dried, the panel is separated and masking tape or adhesive removed

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and the perforated panels are applied to the window and the holes allow the observer to see through the panel from one side to the other. The window may be masked or the panel may be backed with a non-perforate backing. Shields does not teach a method in which the image is applied by ink jet technology. Rather, Shields deals with a
5 conventional method of applying images by painting (apparently by hand-painting) or unspecified printing methods. Further, Shields discounts the importance of perforation, saying it is only necessary that the panel which is to be painted is perforated. Shields further suggests that the panel or adhesive layer removable backing may or may not be perforated depending on whether the window is first masked.

10 Most important, as the Examiner recognizes, Shields does not teach applying an image by ink jet printing and, accordingly, does not relate to top coating for ink adherence. Basically Shields appears to deal with the application of a perforated panel which is applied to a window and, in turn, hand-painted by a sign painter. This teaches away from Applicant's invention which results in a preprinted panel which is printed with
15 a high quality graphic image which can then simply be directly applied to a surface by removing the backing and applying the adhesive surface to the surface of the transparent window.

Andriash is cited as a method for producing a see-through panel, including applying an image to a substrate by printing or painting where the printing includes ink jet
20 printing. Andriash deals with retro-reflective vision panels which includes an opaque

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sheet material coated with retro-reflective light reflecting particles. An image is formed over the top of the retro-reflective particles using colored light printable translucent inks or films to form an image. The Applicant is well aware of retro-reflective films, particularly perforated retro-reflective films. The Applicant is the inventor named in U.S. Patent No. 5,925,437, which deals with retro-reflective films of this type.

Retro-reflective sheet materials of the type utilized in the Andriash patent are specialized materials containing glass beads or other retro-reflective particles printed to form an image with light permeable translucent inks to allow reflected light to pass through the inks. The printing may be with electrostatic transfer method such as silk screening, ink jet printing or other convention methods of image development. Thus, Andriash deals with a very specific type of retro-reflective sheet material containing glass beads and the like and using special inks, namely light permeable translucent inks. *There is no discussion of top-coating or any treatment necessary for the surface to accept the image* in Andriash. The Patentee does suggest that a clear lamination with UV inhibitors may be necessary to seal the structure and permit it to be cleaned.

Since the Examiner acknowledges Shields teaches painting or printing, as discussed above, and Andriash deals with a very specialized retro-reflective substrate, it is submitted that the combination of Shields and Andriash is not proper as there is no objective teaching that would lead one of ordinary skill to combine the relevant teaching of the references. Further, the modification of Shields by Andriash would not result in the

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Applicant's invention but rather would basically result in Shields modified to incorporate retro-reflective surfaces.

Mimura, et al., recognizes that a problem exists when applying printing, such as offset or ink jet printing, to a porous film. Mimura, et al., suggest that if the porous layer has a specific peak pore diameter, a specific undulation index, better drying speed then clearness of the printing will result. The acquired surface is prepared by mixing water disburseable polymer and a specific colloidal silica and specific ratios and applying the mixture on the base film. Thus, the Mimura, et al., patent does not suggest an ink jet encapsulating treatment, but rather deals with the control and porosity of the surface layer to achieve better drying is promoted. Also, the patentee suggests that surface treatment such as corona discharging treatment may be necessary for adhesion.

The combination of Shields, Andriash and Mimura, et al., is inappropriate as each deals with a different problem and hence there is no motivation or suggestion to combine perforated painted signage, retro-reflective panels and surface film porosity teachings.

Further, the result would be a hand-painted, retro-reflective panel having a porous surface and not an ink jet ink encapsulating one-way panel.

CLAIM 2

Regarding Claim 2, this claim is urged allowable for the reasons set forth above. No claim, per se, is made to the use of the specified films other than in connection with the method of Claim 1.

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CLAIM 3

Regarding Claim 3 in which specific top coatings are set forth, Mimura, et al., discuss preparing the surface layer to control the porosity and does not relate to perforated films, nor to an encapsulating surface treatment.

CLAIM 4

Claim 4 is urged allowable for the reasons set forth above with respect to Claim 1. Further, there is no suggestion in any of the reference patents to specifically apply ink jet technology to perforated films and, further, to utilize a removable imperforate barrier to a surface at the time an image is applied to prevent bleeding.

CLAIMS 5 TO 7

Claims 5 to 7 are urged allowable for the reasons set forth above. Further, as pointed out, there is no suggestion in any of the references cited to use the specific inks set forth in Claim 5. It is inks of these types which have presented problems of adherence and the references are devoid of any recognition of the solution to the application of these inks to panels, particularly one-way plastic panels.

CLAIMS 8 TO 12

With regard to Claim 8, reference is made to the discussion with respect to Shields above. Basically, it is again emphasized that Shields suggests that the panel 80 on which the image to be painted or printed is opaque, it may be backed with a dark color adhesive. Contrary to this, Applicant's Claim 8 specifies a substrate having a first surface which is

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light colored and a second surface which is dark colored. Further, Shields, as
acknowledged by the Applicant, does not teach use of ink jet technology, but rather
suggests that the panel can be painted or printed in some unspecified manner. Andriash
deals with a very specialized material, retro-reflective films, and the utilization of
specialized inks and dyes and does not in any way deal with the problem of treating a
surface to receive ink jet image application.

Mimura, et al., while dealing with the problem of making a porous film suitable
for printing, does not in any way deal with see-through signage technology and, further,
suggests a very specific treatment to control porosity in order for inks to properly adhere.

In the rejection, the Examiner has relied on a combination of references to
conclude that the claimed subject matter as a whole would have been obvious to a person
of ordinary skill in the art to which the subject matter pertains at the time the invention
was made. Such a combination is proper only if there is some objective teaching of the
prior art or incentive which would lead one of ordinary skill to combine the relevant
teachings of the references. The references are from diverse areas which, as pointed out
above, are not properly combinable to support an obviousness rejection.

The Applicant's invention as a whole relates to a method and process of producing
an image on a specialized substrate namely perforated film. With the Applicant's
invention a number benefits flow, including a graphic image of high quality that properly
adheres to the substrate and can be used for signage even in adverse conditions. The

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resulting image can be pre-produced and supplied to the user to be simply applied by removing the backing to expose an adhesive and placing the image on the window.

In view of the foregoing, it is believed that the claims as they presently stand in the application are distinguishable and patentable over the prior art.

5 A petition and the requisite extension fee accompanies this Response. A favorable action is respectfully solicited.

Respectfully submitted,

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